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# SCIENCE.

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FRIDAY, MARCH 13, 1885.

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## COMMENT AND CRITICISM.

A PLAN is on foot for establishing in Mount Royal park, Montreal, a botanic garden, to be under the joint care and patronage of McGill university and the Horticultural society. Those who are familiar with the superb park and its deservedly famous drives will at once understand what an unrivalled opportunity Montreal possesses for giving to its citizens another source of enjoyment. With a water-supply practically limitless, and with every needful exposure to the sun upon its slopes, the mountain furnishes as fine a location for a botanic garden at the north as can be imagined. It is wisely suggested that much prominence be given, in the new enterprise, to the special horticultural and arboricultural features which offer so wide a field for profitable study in our northern climates.

Of the educational advantages to university students, of a botanic garden and an arboretum, it is superfluous to speak, since they are self-evident; but it may be well to refer briefly to the great value to a community of a botanic garden as a means of culture to the children in the public schools, as well as to the thousands who can find little time, and who have but little inclination, to acquaint themselves with the world of beauty around them. In a properly arranged botanic garden, the groups of plants having different and interesting habits—for instance, the climbers, the insectivorous plants, the weather-plants, and those which furnish the principal vegetable products—are visited and carefully examined by many who would otherwise seldom look into the book of nature. We presume that no scientific man can object in any reasonable way to such a method of popularizing science. The enterprise is fortunately to receive the judicious care

of Professor Penhallow of McGill university. We wish the plan all success.

WE HAVE given space to Mr. Cox's long letter attacking our comments upon microscopists, because he has brought against us an accusation of unfairness. We can assure Mr. Cox that our expressions were induced by no *animus* or personal feeling, but were called forth by the tendency, specially marked in this country, to give a separate dignity to microscopy, and to glorify the tool at the expense of the work. The microscope is a tool, like the tweezers or the hammer; and the sciences cannot be divided according to the tool used. That microscopes are so fine and elaborate may explain, but does not lessen, the error of regarding microscopy as a separate science. To make microscopy as generally understood, a little petrography is patched together with a little anatomy, some parts of botany, a little crystallography and chemistry, and some optics. Mr. Cox invites a comparison with astronomy as the science of what is beyond vision in distance; but the astronomer is not a telescopist, and does not claim that every thing which can be done with a telescope should be grouped together under one science. He recognizes his instrument as his tool.

The microscope is a noble apparatus; and one who thoroughly studies all the principles involved in its construction, and invents improvements in it or its use, is deservedly to be called both a microscopist and a scientific man. Usually the microscopist is, however, confessedly an amateur, and gives his attention to very various objects; while those who use the microscope constantly—the pathologists, embryologists, botanists, petrographers, etc.—unquestionably prefer to be called after the department of science they follow, not microscopists after their instruments. We think

there has been a tendency to exalt the amateur's microscopy to the rank of a separate department of science, and therefore we plead not guilty to Mr. Cox's accusation of injustice. It is proper for *Science* to point out a confusion as to the natural demarcations of the sciences, or to call attention to the fact that there is a body of men who are much interested in certain parts of science, but yet chose their interests in so many fields, that they lack that rigorous thoroughness which is indispensable for pure science, and which, in its turn, makes specialization indispensable.

WE REGRET to announce the resignation, by Professor Harrison Allen, of the chair of physiology at the University of Pennsylvania. Our regret is increased by the fact that the step is the consequence of the pressure of overwork, and the growing demands of a large medical practice. We hope that his professional activity will not prevent the continuance of the important researches upon which Professor Allen has been engaged. The loss to the university will not be readily made good; for Dr. Allen is not only an investigator of thoroughly scientific spirit, but also one who is singularly appreciative of the good work of others, and encouraging to his co-laborers, as has been shown most happily in the recent establishment of the Biological institute at Philadelphia, in which Dr. Allen had efficient participation. The university will certainly miss his experienced co-operation.

It is premature to comment on the plan of examination for admission now under consideration in the faculty of Harvard college. It is known that such a plan has been found, in its general features, to furnish a satisfactory ground of truce between the combatants, and that both the classicists and the modernists in the faculty are well contented to unite in it as affording a wise and fair adjustment of their differences. But the discussion has not yet reached its final stage, and some important questions still remain to be considered. At the proper time we shall lay before our readers

a full account of whatever system of requirements is ultimately adopted.

THE PROVISIONS for the scientific bureaus of the government, made in the sundry civil bill passed at the close of the last congress, are, on the whole, less generous than in the preceding year. The appropriations for the weather bureau, including the military branch (\$883,433), and for the coast-survey (\$551,498), are slightly greater; those for the geological survey (\$467,700) and the ethnological bureau (\$40,000) are the same; that for the national museum (\$147,500), scarcely less than a year ago; but the fish-commission receives only \$256,000, which is \$65,000 less than last year; and to the census bureau nothing is given (it received \$10,000 last year). Thus the natural necessary growth of some of these institutions is not provided for.

On THE other hand, the Smithsonian institution is given \$10,000 for maintaining its excellent work in foreign exchanges; \$10,000 is appropriated for operating the Watertown testing-machine, and \$12,000 for printing the continuation of the catalogue of the medical library attached to the surgeon-general's office; while the joint commission of three senators and three representatives, to consider the present organizations of the signal-service, geological survey, coast and geodetic survey, and the hydrographic office, is continued, and instructed to report at the next meeting of congress.

By THE sundry civil bill, the president is authorized, in case of threatened or actual epidemic of cholera or yellow-fever, to use at his discretion the unexpended balance of the sum re-appropriated for this object in July, 1884, together with the further sum of \$300,000, in aid of state and local boards or otherwise, "in preventing and suppressing the spread of the same, and for maintaining quarantine and maritime inspections at points of danger; and, by the meagre appropriation of \$15,000, the national board of health is resuscitated.

This is emphatically a step in the right direction. Under the provisions of the act, much valuable information in regard to either of the diseases mentioned may be obtained; and, if either of them visits the country, it is to be hoped that something of scientific value will be added to our knowledge of the means of fighting it. We should have been glad to see an additional special clause providing for the appointment of experts to investigate at least the first cases which occur, for it is by the rigid inspection of these often doubtful cases, by accurate diagnosis and successful isolation, that an epidemic is to be arrested. Without a special recommendation of this kind, there seems to be too much danger of the omission of rigorous measures at the most important time.

THE RECTIFICATION of public practice in accordance with scientific theory is always gratifying. Attention was recently called to certain results of the mode of educating deaf-mutes by means of silent signs and in seclusive institutions, — threatening no less a calamity than the creation of a deaf-mute variety of mankind, — and to the desirability of training deaf children in the use of common speech, in association with hearing children, and without removal from family influences. The memoir on this subject by Prof. A. Graham Bell, embodied in the Report of the National academy of sciences presented to congress last year, has led to much discussion of the subject. The first fruits are seen in a bill now before the legislature of the state of Wisconsin, which provides for the establishment of small day-schools for the deaf in any incorporated city or village in the state. These schools will be under the control of the state superintendent of public instruction.

This is a movement in the right direction. Existing institutions for the education of the deaf are under the management of the boards of state charities. But this pioneer legislation of Wisconsin recognizes the obligation of the state to provide education for all her children,

not as a charity, but as a right. The establishment of these day-schools was recommended by Gov. Rusk in his message to the legislature last January, in which he says, "There were in Wisconsin, according to the census in 1880, 1,079 deaf-mutes, of whom 600 were of school-age, between six and twenty, and less than one-third of these were receiving instruction." An equally large proportion of deaf children are growing up in ignorance in all our states; and the question is forced on public consideration, whether to enlarge and increase the number of state institutions, or to supplement those already existing by the provision of day-classes for the deaf, in connection with our common schools. The Wisconsin experiment will be watched with interest: its results can only be for good; and the example of that state in taking a new departure of this kind is worthy of being generally followed, that the tests may be conclusive for the whole country.

Prof. A. G. Bell was invited by the committees on education, of the senate and assembly of the legislature of Wisconsin, to present his views for their information; and, after completing his *viva voce* explanations, he addressed an open letter to the committees, in which his arguments are recapitulated clearly and compactly. This document we commend to all who are interested in the subject. We have room for only one quotation: "Out of a total of 33,878 deaf-mutes in the United States in 1880, 15,059 were of school-age; and the total number of deaf-mutes returned as then in the institutions and schools of the United States was only 5,393." This fact alone shows the necessity, not only of doing something, but of doing it without delay.

#### LETTERS TO THE EDITOR.

\*\*\* Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

#### Decadence of science about Boston.

I OBSERVE that this subject is still discussed in a recent number, but that no one ventures to raise a doubt as to the original assertion. Yet to a layman in science it does not seem that any proof of such